UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD
Amerigen Pharmaceuticals Limited and Argentum Pharmaceuticals LLC
Petitioners
v.
Janssen Oncology, Inc.
Patent Owner
U.S. Patent No. 8,822,438 to Auerbach et al. Issue Date: September 2, 2014 Title: Methods and Compositions for Treating Cancer
Inter Partes Review No. 2016-00286

## DECLARATION OF DR. SCOTT R. SERELS, M.D.

I declare that all statements made herein on my own knowledge are true and that all statements made on information and belief are believed to be true, and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Scott R. Serels, M.D.

AMERIGEN 1095



<sup>&</sup>lt;sup>1</sup> Case IPR2016-01317 has been joined with this proceeding.

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I, Scott R. Serels, M.D., do hereby declare:

### I. Introduction

- 1. My qualifications are generally described in Section A, paragraphs 4-7, of my declaration submitted on December 5, 2015, (AMG 1002).
- 2. I am making this declaration at the request of Amerigen Pharmaceuticals, Ltd., in the matter of the *Inter Partes Review (IPR)* of U.S. Patent No. 8,822,438 (the "'438 Patent"), as set forth in the above caption.
- 3. I am being compensated for my work in this matter at the rate of \$500.00 per hour. My compensation in no way depends on the outcome of this proceeding. The opinions I set forth herein are my own, and are based on the education, experience, training and skill that I have accumulated in the course of my career as a practicing urologist and researcher, as well as the materials I have reviewed in connection with this case.
- 4. For this declaration, I was asked to review and discuss the declarations of Patent Owner's experts, Dr. Chodak (JSN 2042), Dr. Auchus (JSN 2040) and Dr. Vellturo (JSN 2044). I have reviewed their declarations and the transcripts of their depositions in this matter. I have also reviewed the declarations of Dr. Dorin (AMG 1093) and Dr. Ratain (AMG 1091).
  - 5. Initially, I note that the Petition states that a person of ordinary skill in

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the art ("POSA") would be a physician specializing in urology or oncology, or holding a Ph.D. in pharmacology, biochemistry or a related discipline with additional experience substituting for the advanced degree. I understand that the Patent Owner has disagreed with this definition because "it includes 'a Ph.D. in pharmacology, biochemistry or a related discipline' and a physician 'specializing in urology or oncology' who does not treat or study prostate cancer." My opinion would not change whether we use the Patent Owner's definition of a POSA or the definition according to the Petition.

6. I have reviewed the declaration of Dr. Auchus (JSN 2040) and understand that he asserts that a POSA, a urologist or oncologist with experience treating patients with prostate cancer, would work in a team or setting that includes access to one or more or individuals who have expertise in endocrinology, biochemistry, pharmacology, and/or molecular biology or a related field of science. I agree that a POSA would not be an endocrinologist but would have access to an endocrinologist, to the extent needed.

## II. Mechanism of Action of Ketoconazole and Abiraterone Acetate

7. I have read the declaration of Dr. Auchus and understand that he disagrees with part of a conclusion in my declaration (AMG 1002, ¶ 34) that ketoconazole "was known to reduce cortisol levels and potentially result in mineralocorticoid excess." (JSN 2040 (Auchus Declaration) ¶ 36.) While he agrees

with my explanation that ketoconazole was known to reduce cortisol levels, he disagrees that ketoconazole potentially results in mineralocorticoid excess. As I explained in my declaration at paragraph 33, ketoconazole is a non-specific inhibitor of 17-α hydroxylase, an enzyme critical to steroid synthesis. In my declaration I contrasted the non-specificity of ketoconazole with that of abiraterone acetate, which is a selective CYP17 inhibitor (paragraphs 26, 45). Although both compounds were known to reduce cortisol levels and therefore would have been expected to share common adverse effects because of those reduced levels, e.g., increased ACTH drive, the lack of specificity of ketoconazole will result in additional effects that are not seen with abiraterone acetate. Nonetheless, the common inhibitory effect on cortisol production and resulting increase in ACTH as a consequence of administering either abiraterone acetate or ketoconazole would have plainly and sufficiently suggested to a POSA the use of a glucocorticoid, such as prednisone, with both compounds as glucocorticoid replacement therapy.

8. At the time I prepared my declaration, I did not fully consider the various mechanisms by which ketoconazole was known to inhibit adrenal steroid synthesis beyond that of inhibiting CYP 17 enzyme activity. In forming my opinions, I relied primarily on the disclosures in the prior art regarding the inhibition by ketoconazole of CYP 17 enzymatic activity, including the specific disclosures in O'Donnell (AMG 1003 at 2318) and Barrie (AMG 1005 at col. 24, lines 61-62),

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